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8/Appendix  
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3-7-91

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

AFFIDAVIT

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Commissioner:

I, Dale E. Fiene, herewith affirm as follows.

(A) I was born on April 24, 1945; and I am a U.S. Citizen.

(B) I presently live at 337 North Chestnut, Addison, Illinois 60101.

(C) In June 1967 I graduated, with honors, with a Bachelor of Science Degree in Electrical Engineering from Valparaiso University in Valparaiso, Indiana; and

I am a member of Tau Beta Pi, an Engineering honors society.

(D) I have practiced Electrical and Electronics Engineering since June 1967, as follows.

1. Between June 1967 and February 1970, at Honeywell Inc., as an Associate Systems Analyst Engineer, I developed analog and digital computer simulations of automatic control systems to predict performance and improve stability.

2. Between February 1970 and May 1978, at Honeywell Inc., as a Design Engineer and Project Manager, I was responsible for the design and development of fire and security alarm systems.

3. Between May 1978 and June 1982, at Fyrnetics Inc. of Elgin, Illinois, as Electrical Engineering Manager, I was responsible for the design and development of fire alarms, home security products and electronic lighting products.

4. Between June 1982 and April 1987, at Fyrnetics Inc., as Director of Engineering, I directed the activities of a group that designed and developed a complete line of electronic fluorescent lamp ballasts as well as other electronic lighting-related power supplies such as inverter-type power supplies for track lighting applications.

5. Between April 1987 and April 1989, at Seatt Corporation of Downers Grove, Illinois, I managed the development of fire alarms, electronic setback thermostats and electronic lighting products.

6. Since April 1989, I have formed a corporation, International Product Development, Inc. The main charter of this company is research and development of electrical lighting products, such as ballast for gas discharge lamps and power converter for Halogen lamps.

(E) In total, I have spent more than 10 years in the design and evaluation of electronic lighting products in general and of inverter-type power supplies for Halogen Lamps as well as inverter-type fluorescent lamp ballasts in particular.

(F) I have read, and I am familiar with the teachings of, each one of the prior art references identified on page 3 hereof.

(F) I have read and I understand the claims in U.S. patent application Serial No. 07/484,278;

I have read the office action from the Patent and Trademark Office dated 10/18/90 and pertaining to the above-identified patent application;

I have read and I understand the teachings of the following U.S. Letters Patents: No. 4,207,498 to Spira et al. ("Spira"); No. 4,414,617 to Galindo; and No. 4,506,318 to Nilssen; and

I herewith testify as follows.

(1) To use Galindo's track lighting system in combination with Spira's gas discharge lighting system, would be highly unusual -- to say the least.

(2) Conversely, it would be highly unusual to use Spira's frequency-converting power supply to supply the track conductors in Galindo's track lighting system.

Neither Galindo nor Spira provides any form of suggestion as to why it may be beneficial to supply the power tracks in a track lighting system (such as that of Galindo) with a voltage of frequency different from that of the ordinary power line voltage.

(3) It would be both unusual and inappropriate to distribute the high-frequency voltage in Spira's gas discharge lighting system by way of power tracks such as those described by Galindo.

This statement is based on several facts and considerations, as follows.

(a) With exemplary reference to Spira's lighting system, to distribute 1850 Watt of electric power at a frequency of 23 kHz to 25 lighting fixtures (each having two fluorescent lamps) in a lighting system of the type indicated by Spira would require very special distribution means in order to minimize detrimental effects arising because of the unusually high distribution frequency. Indeed, this fact is recognized by Spira in that he proposes a special transmission line for distributing his 23 kHz voltage (see his Fig. 2). Therefore, it would not seem reasonable to assume -- and certainly not obvious -- that power tracks of the type described by Galindo would be appropriate for distributing the 23 kHz voltage in Spira's lighting system.

(b) Lighting fixtures are normally hard-wired, and it would seem both unusual and inappropriate to distribute the power to the lighting fixtures in Spira's lighting system by way of power tracks and the associated plug-in connector means. That is, if power to the lighting fixtures were to be distributed by way of power tracks, the electrical connection between the lighting fixtures and the power track would have to be effected by some form of plug-in connector means; which type of electrical connection would generally not be considered acceptable on basis of fire safety issues, nor would it generally be considered acceptable under existing fire codes.

(c) Spira describes a lighting system consisting of a central source of 23 kHz voltage and a number of lighting fixtures. Since it would constitute highly unusual practice, since it would add a substantial amount of cost and complexity, and since it would be void of any discernable benefit, it would not seem reasonable (and certainly not obvious) to distribute power to these lighting fixtures by way of Galindo's power tracks as contrasted with ordinary conduited conductors or the special transmission line expressly proposed by Spira.

(4) The arrangements defined by the various claims of patent application Serial No. 07/484,278 do not constitute obvious modifications and/or combinations of Spira's, Galindo's and/or Nilssen's teachings.

Quite the contrary. With reference to my comments above, an appropriately skilled person would steer away from using power tracks for distributing the high-frequency voltage in Spira's lighting system.

(5) In the teachings of Galindo and Spira, I can discern no suggestion whatsoever with respect to any benefit that might result if those teachings were to be modified and/or combined in such exact manner as to lead to the invention defined by the claims in application Serial No. 07/484,278.

(6) On page 3 of his office action the examiner states that the above-cited references taken together teach:

(i) "that the track means COULD be used in place of the lines of Spira et al.", and

(ii) "that track means SHOULD be used in place of line means in general".

While I agree with statement (i); I find statement (ii) to be fundamentally and materially erroneous.

There is no indication whatsoever in any of the above-cited references to the effect that "track means" are generally advantageous to use for distributing electric power.

In fact, to a person possessing ordinary skill in the art most nearly related to the art of electric power distribution, the opposite would be true; which is to say: in most electric power distribution systems (including the one described by Spira), it would be highly unusual and totally inappropriate to use "track means" for distributing the electric power.

(7) In the last paragraph on page 3 of his office action, the examiner states that:

"The motivation of one of ordinary skill in the art is to derive the advantages that the use of track means is known to provide over using equivalent wire means".

This statement is materially non-appropos.

In general, the use of "track means" does not provide for any advantages over ordinary "wire means". On the contrary, in most electric power distribution systems by far, ordinary "wire means" would be substantially more advantageous to use; which, of course, is why such ordinary "wire means" are indeed used in most electric power distribution systems.

In particular, I have never even heard of a single situation where "track means" (i.e., power tracks, such as taught by Galindo) are used for distributing electric power in a lighting system such as that described by Spira.

That is, contrary to the position expressed by the examiner in the last paragraph on page 3 of his office action, there simply are no general advantages to be derived from using "track means" in lieu of ordinary power conductors in an electric power distribution system. Any advantages associated with using such "track means" for electric power distribution pertain only to highly specialized applications.

(8) With reference to exemplary claim 12, the referenced prior art does not provide any suggestion with respect to any possible advantages associated with powering incandescent lamps with the high-frequency voltage provided by Spira's (or Nilssen's) power supply.

As a matter of plain fact, there is no known advantage associated with powering an incandescent lamp with a high frequency (23 kHz) current versus powering it with 60 Hz current.

Moreover, as Spira clearly brings out (see his column 3, lines 14-24 as well as his column 5, lines 3-10 and 23-27), to properly distribute high frequency (23 kHz) current to plural remotely-located lighting fixtures is not a simple matter. He particularly suggests the use of highly special power distribution means -- such as the special cable described in his Fig. 2. This indicated requirement, by itself, would constitute a serious counter-indication to any value otherwise possibly represented by the use of Galindo's power tracks for distributing the high frequency current in Spira's lighting system.



Dale E. Fiene

STATE OF ILLINOIS)

) ss

SEAL

COUNTY OF MCHENRY)

Sworn to and subscribed before me this 4<sup>th</sup> day of  
November, 1990.

